

Fig.1

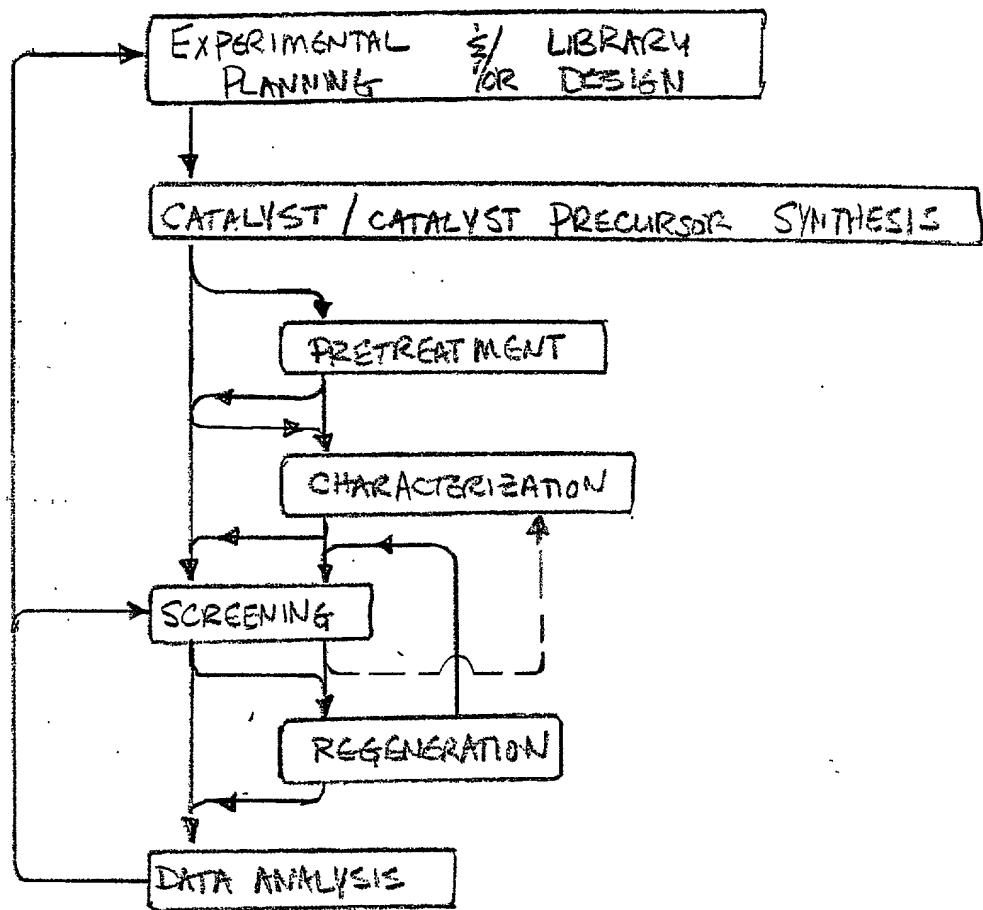


FIG. 2A

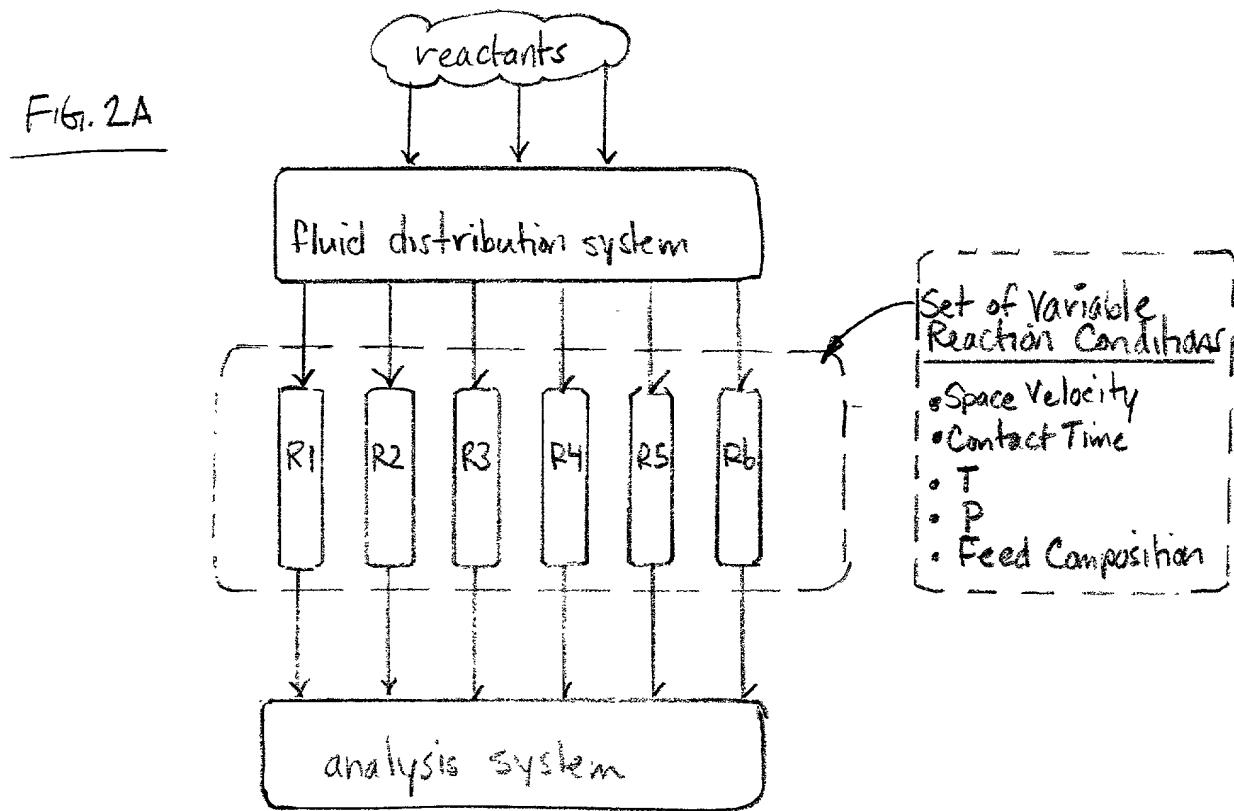


FIG. 2B

SV <sub>1</sub> (or CT <sub>1</sub> )	C <sub>1</sub>	C <sub>1</sub>
SV <sub>2</sub> (or CT <sub>2</sub> )	C <sub>1</sub>	C <sub>1</sub>
SV <sub>3</sub> (or CT <sub>3</sub> )	C <sub>1</sub>	C <sub>1</sub>
T <sub>1</sub> (or (P <sub>1</sub> ) (or (FC <sub>1</sub> )	T <sub>2</sub> (or (P <sub>2</sub> ) (or (FC <sub>2</sub> )	

6 simultaneous experiments

FIG. 2C

SV <sub>1</sub> (or CT <sub>1</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>
SV <sub>2</sub> (or CT <sub>2</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>
SV <sub>3</sub> (or CT <sub>3</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>	C <sub>1</sub>
T <sub>1</sub>	T <sub>2</sub>	P <sub>1</sub>	P <sub>2</sub>	
		(or (FC <sub>1</sub> )	(or (FC <sub>2</sub> )	

12 simultaneous experiments

FIG. 2D

SV <sub>1</sub> (or CT <sub>1</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>2</sub>
SV <sub>2</sub> (or CT <sub>2</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>2</sub>
SV <sub>3</sub> (or CT <sub>3</sub> )	C <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>2</sub>

T <sub>1</sub>	T <sub>2</sub>	T <sub>1</sub>	T <sub>2</sub>
( <sup>or</sup> ) (P <sub>1</sub> )	( <sup>or</sup> ) (P <sub>2</sub> )	( <sup>or</sup> ) (P <sub>1</sub> )	( <sup>or</sup> ) (P <sub>2</sub> )
( <sup>or</sup> ) (FC <sub>1</sub> )	( <sup>or</sup> ) (FC <sub>2</sub> )	( <sup>or</sup> ) (FC <sub>1</sub> )	( <sup>or</sup> ) (FC <sub>2</sub> )

{ 12 simultaneous experiments

experiments

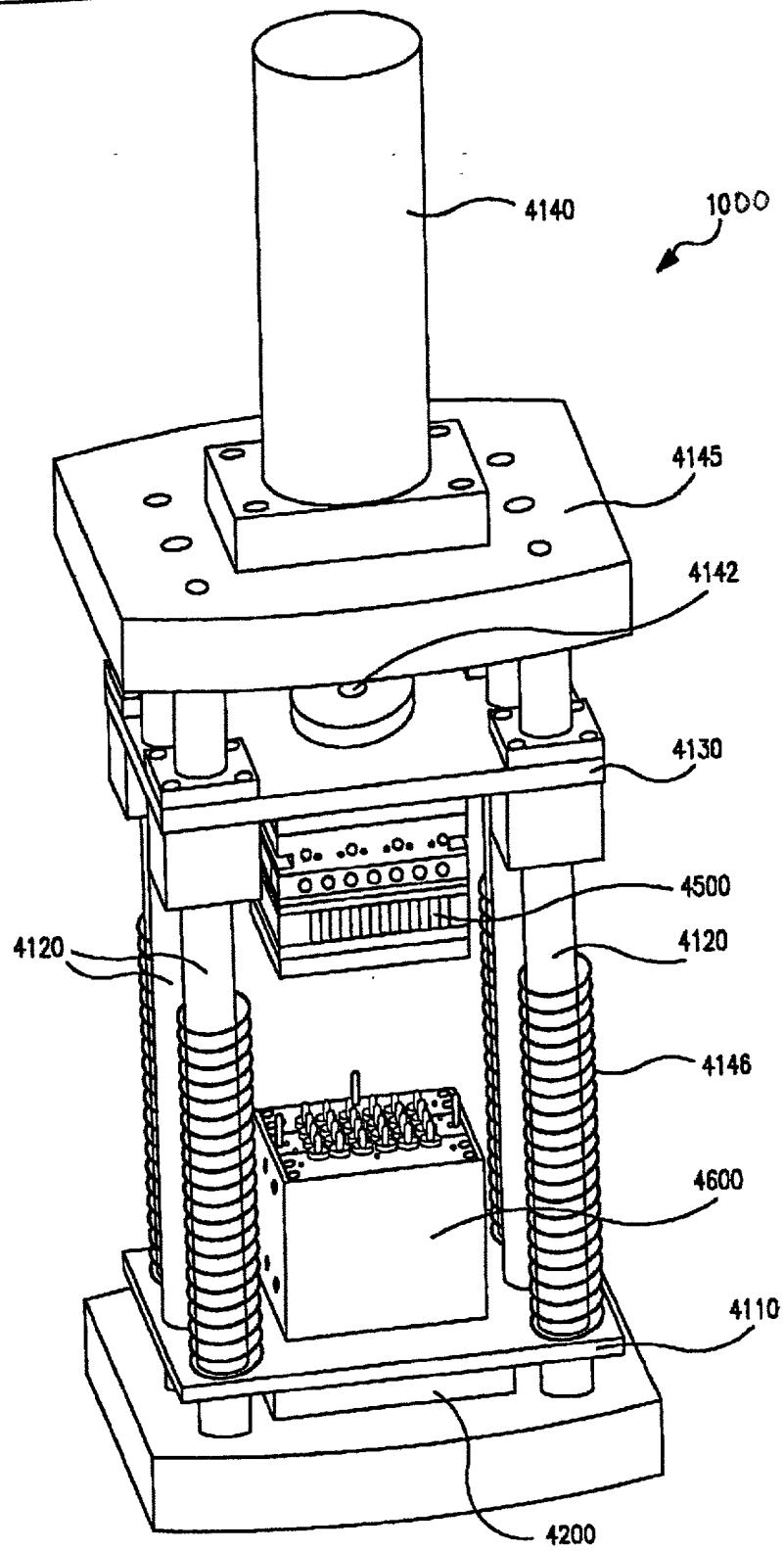
FIG. 2E

SV <sub>1</sub> (or CT <sub>1</sub> )	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>
SV <sub>2</sub> (or CT <sub>2</sub> )	C <sub>4</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>
SV <sub>3</sub> (or CT <sub>3</sub> )	C <sub>3</sub>	C <sub>4</sub>	C <sub>1</sub>	C <sub>2</sub>
SV <sub>4</sub> (or CT <sub>4</sub> )	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>1</sub>

T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>
( <sup>or</sup> ) (P <sub>1</sub> )	( <sup>or</sup> ) (P <sub>2</sub> )	( <sup>or</sup> ) (P <sub>3</sub> )	( <sup>or</sup> ) (P <sub>4</sub> )
( <sup>or</sup> ) (FC <sub>1</sub> )	( <sup>or</sup> ) (FC <sub>2</sub> )	( <sup>or</sup> ) (FC <sub>3</sub> )	( <sup>or</sup> ) (FC <sub>4</sub> )

{ 16 simultaneous experiments

FIG. 2F



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Fig. 24

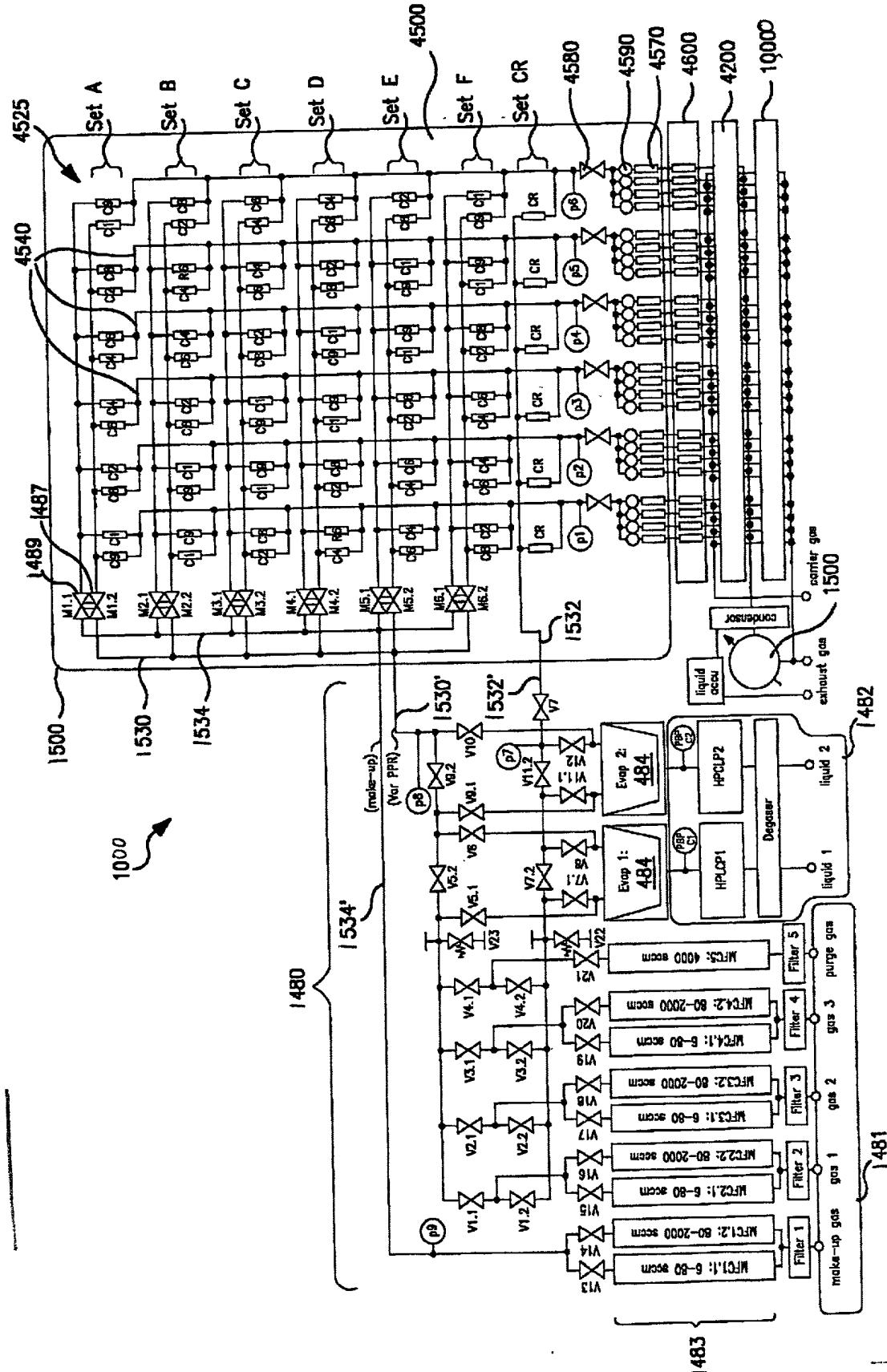
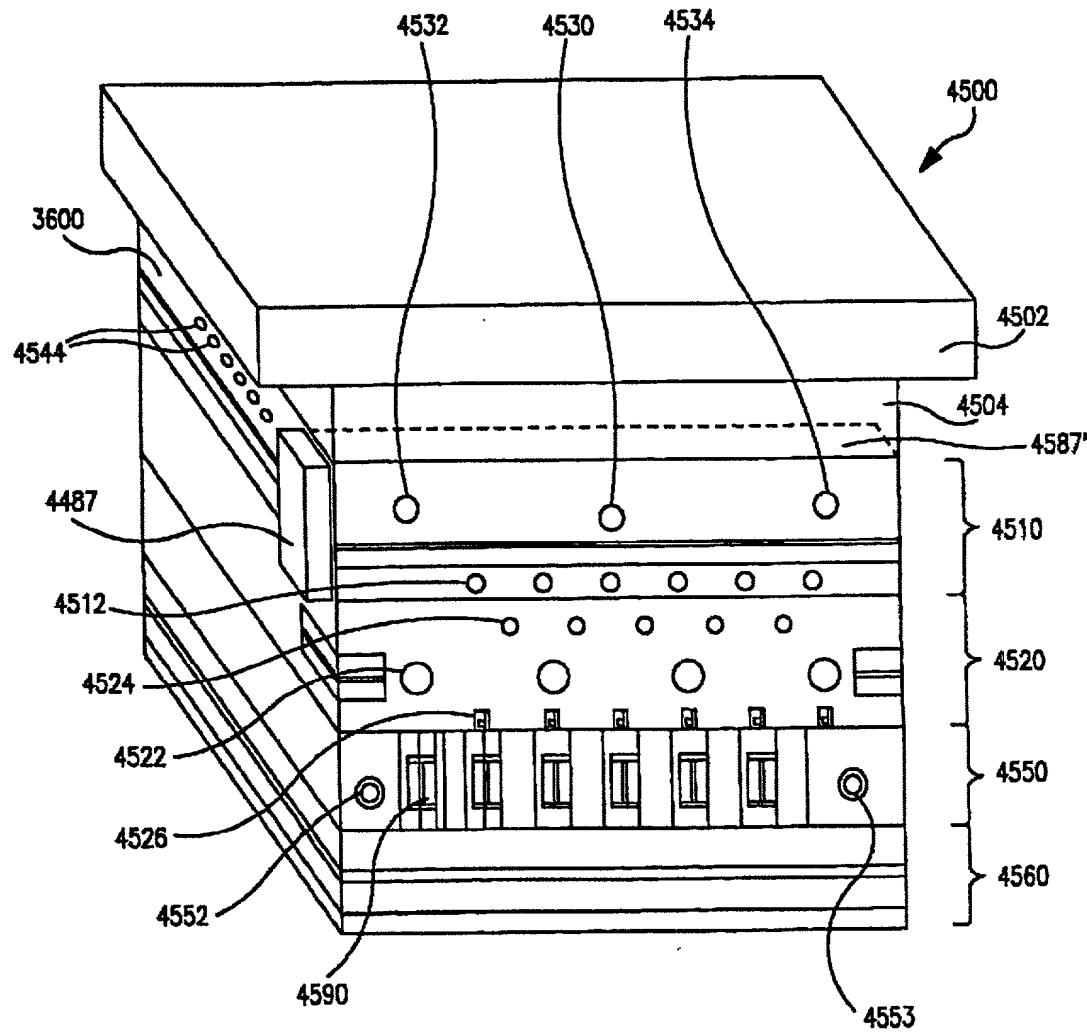


FIG. 214



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Fig. 2T

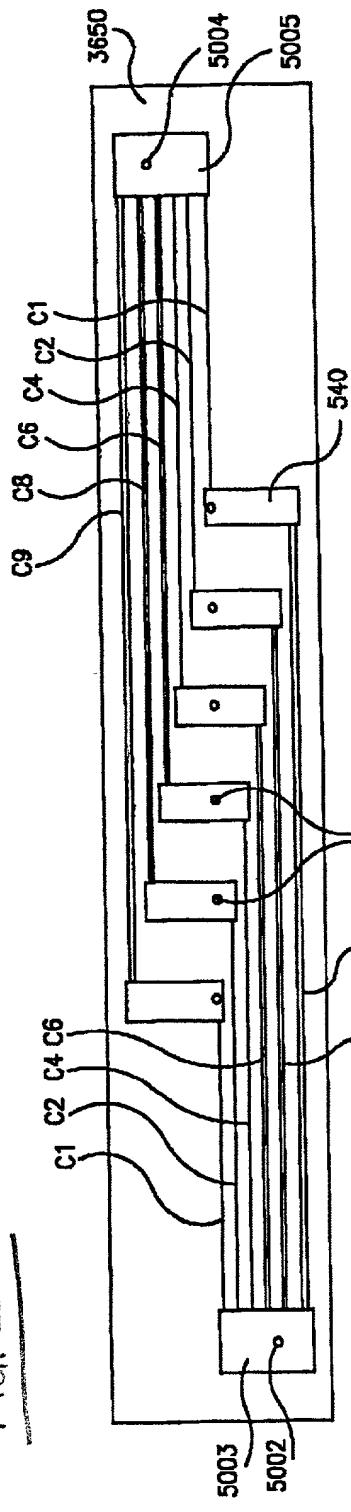


Fig. 2T

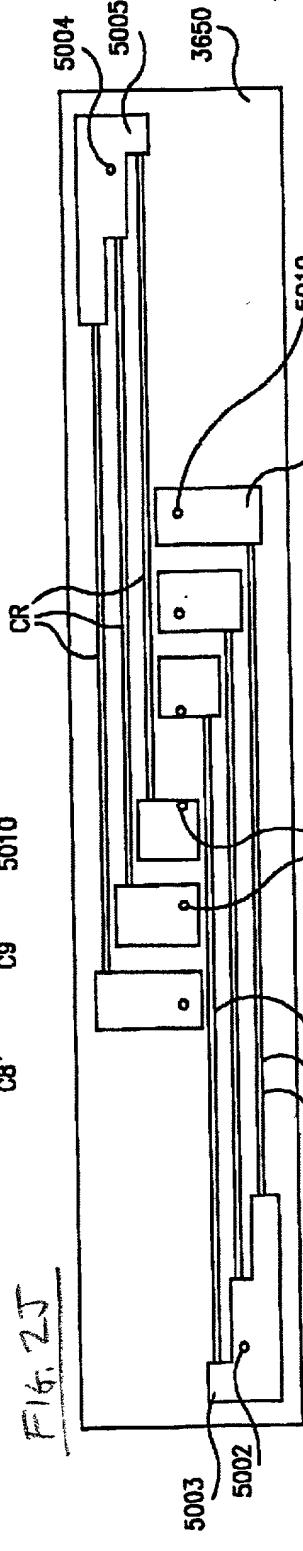
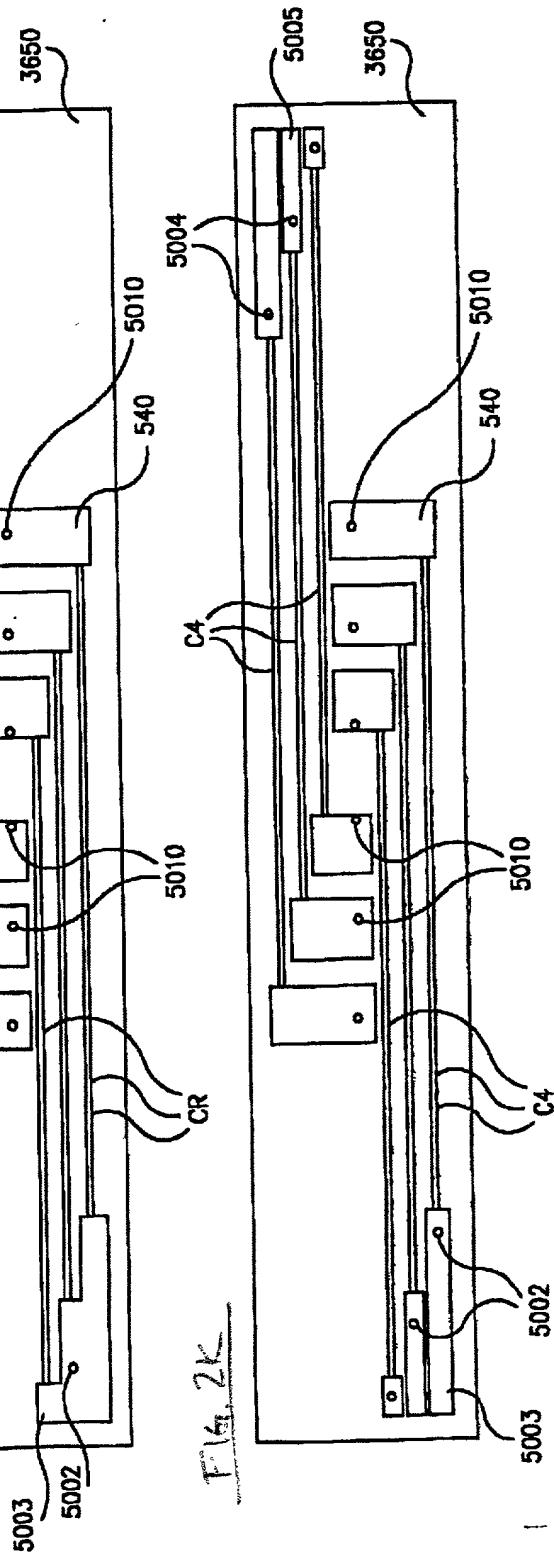
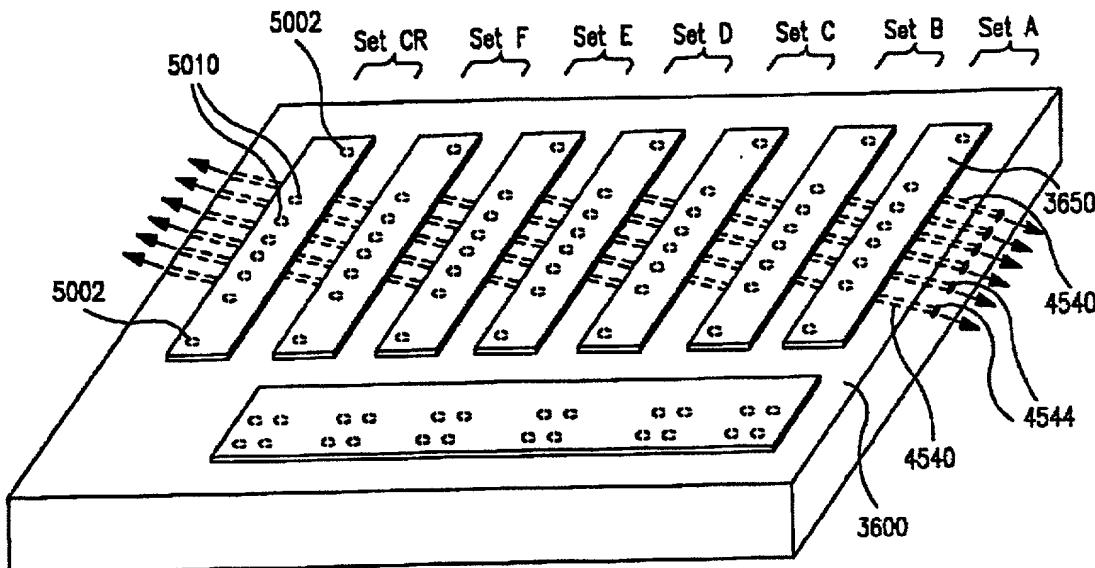


Fig. 2T



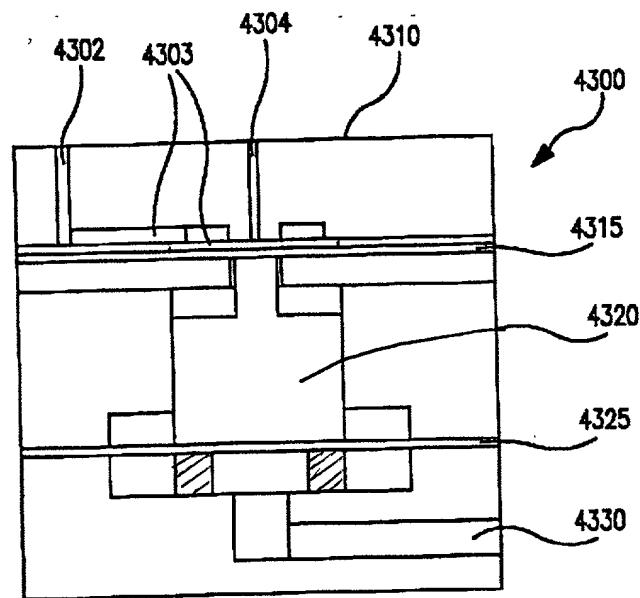
6117

FIG. 2L



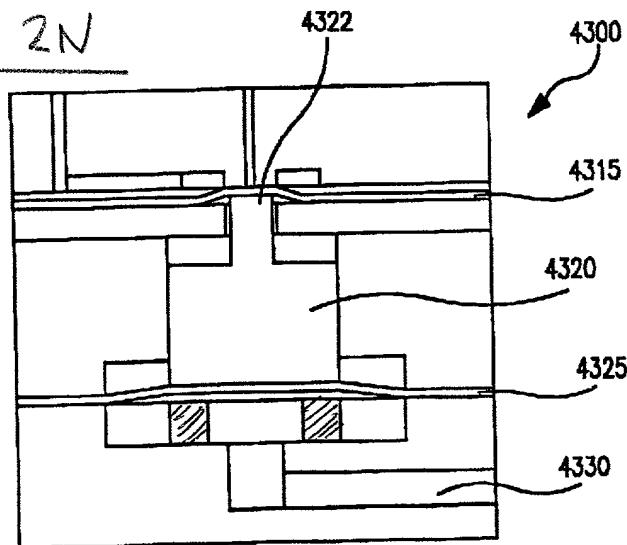
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FIG. 2M



05504763 05504763

FIG. 2N



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10119 20180616 01600

Fig. 20

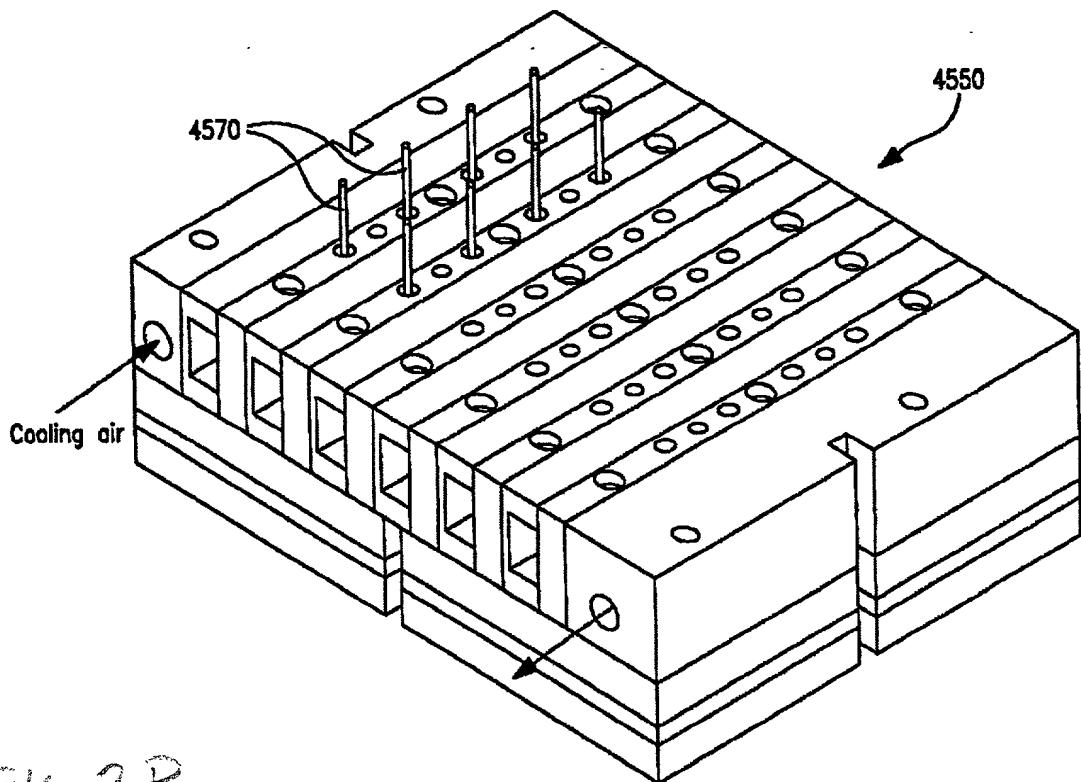
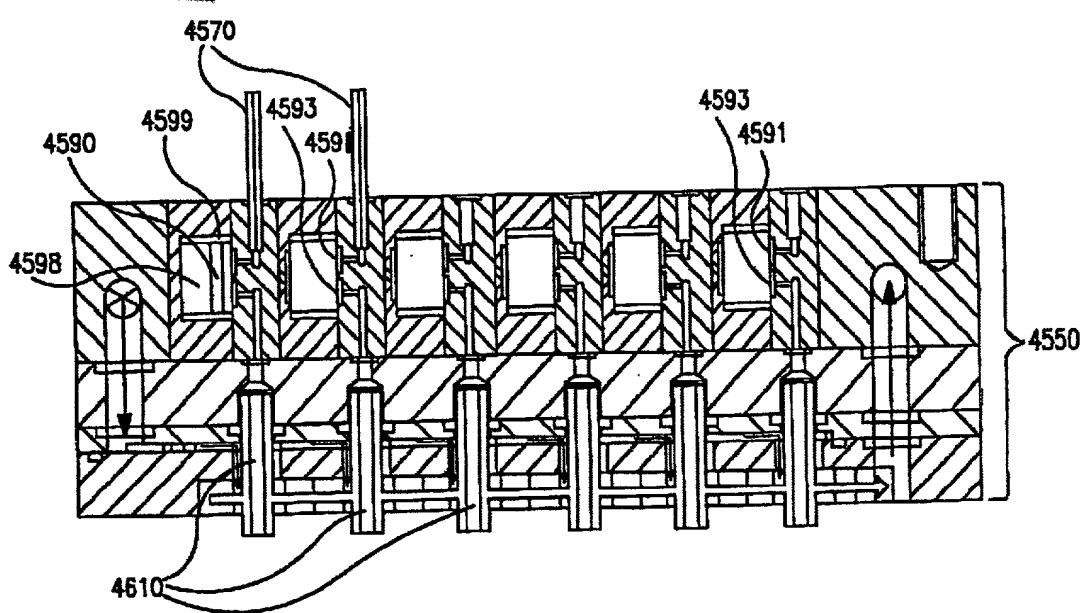


Fig. 2P



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FIG. 2Q

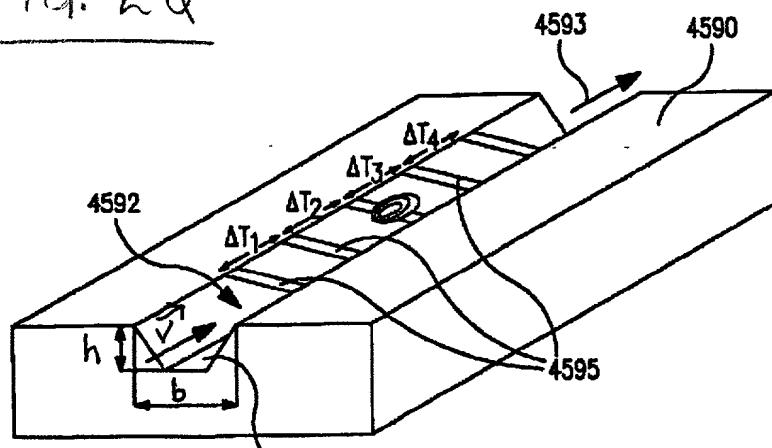


FIG. 2R

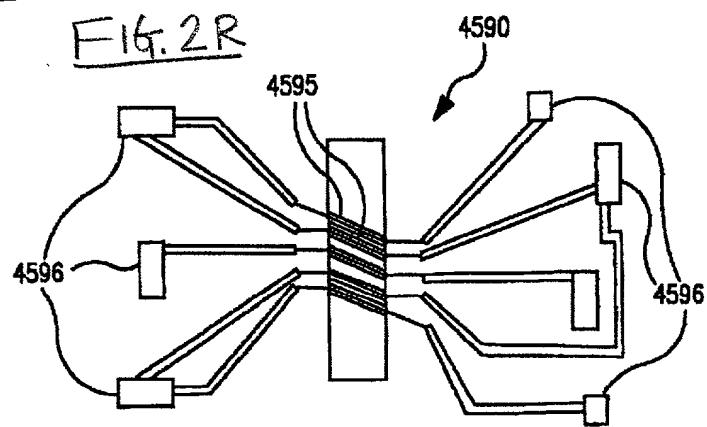
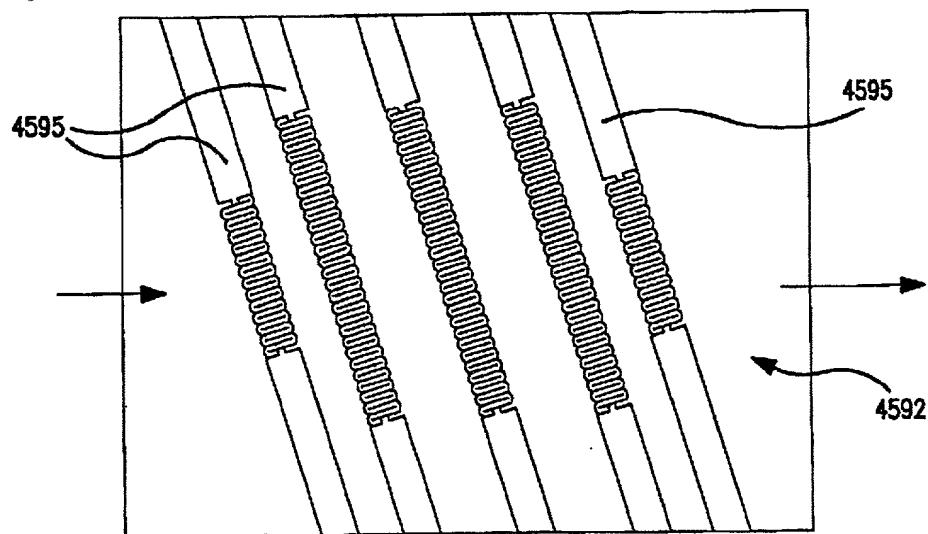
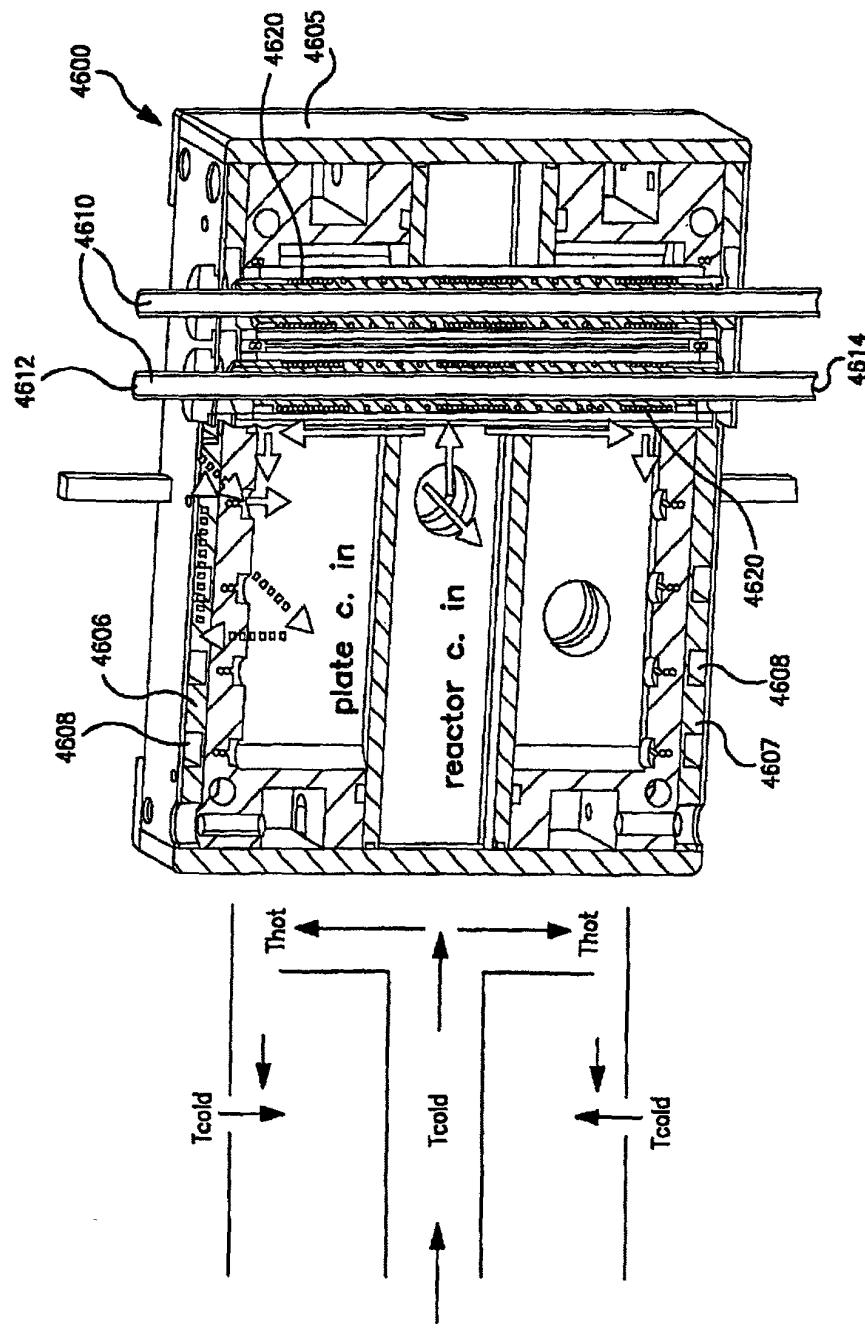


FIG. 2S



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Fig 2T



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FIG. 3A

PROCESS EVALUATION

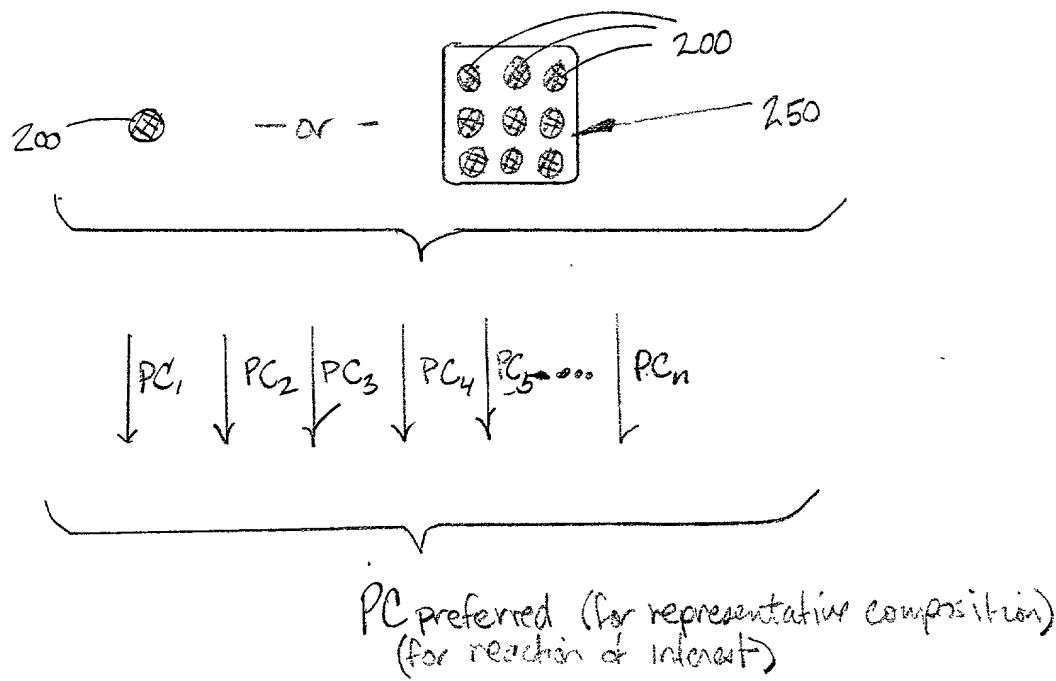


FIG. 3B

COMPOSITIONAL EVALUATION

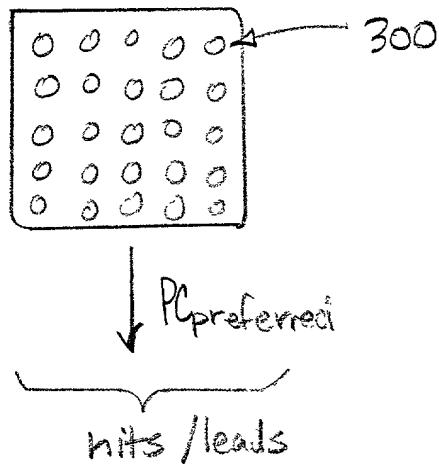


Fig. 4A

SYNTHESIS  
PROCESS  
EVALUATION

elements / substituents of  
representative composition

$S_1 \downarrow S_2 \downarrow S_3 \downarrow S_4 \downarrow \dots \downarrow S_n$

200  $\oplus \oplus \oplus \oplus \oplus \dots \oplus$

200'  $\oplus \oplus \oplus \oplus$   
250

$PC_1 \downarrow PC_2 \downarrow PC_3 \downarrow PC_4 \downarrow \dots \downarrow PC_n$

PC<sub>Preferred</sub>, Selected for representing  
composition for reaction of interest.

Fig. 4B

COMPOSITIONAL  
EVALUATION

Preferred

300  
 $\begin{array}{ccccc} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}$

PC<sub>Preferred</sub>,

hits / leads

Fig. 5A

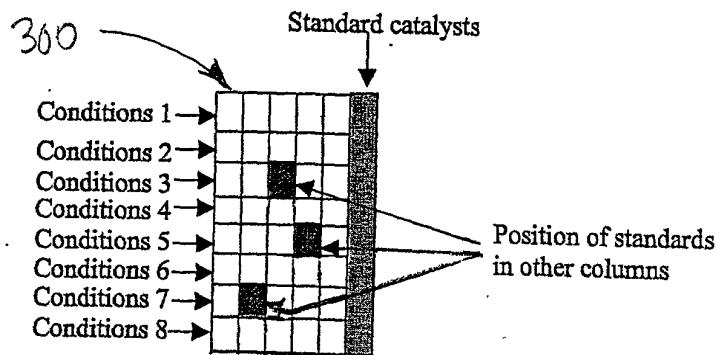


Fig. 5B

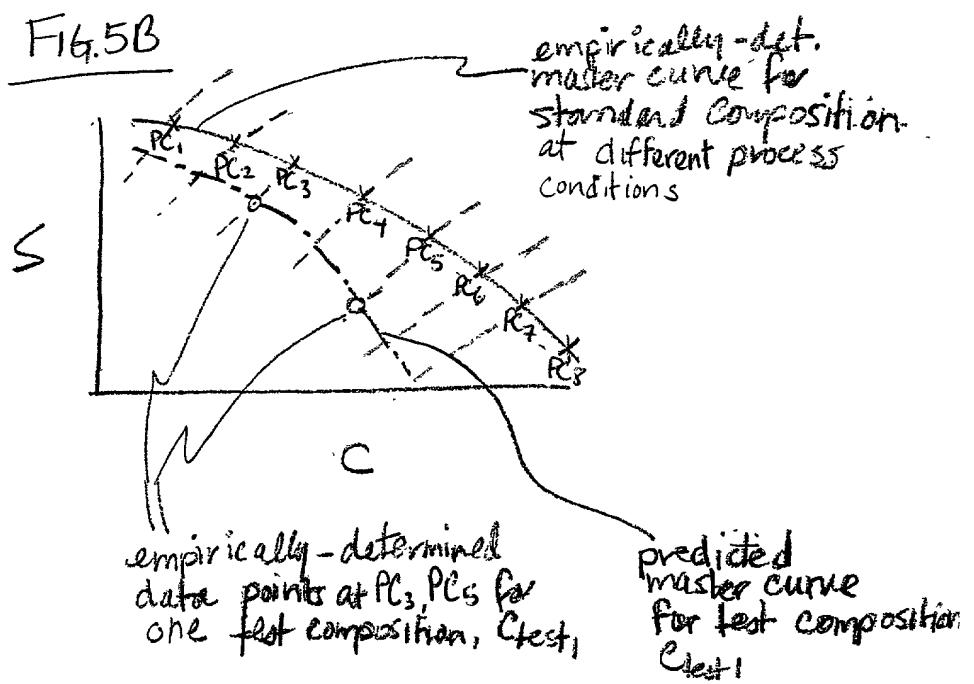
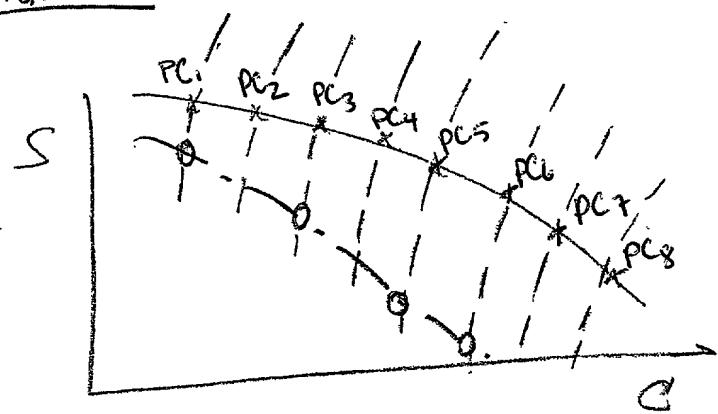


Fig. 5C



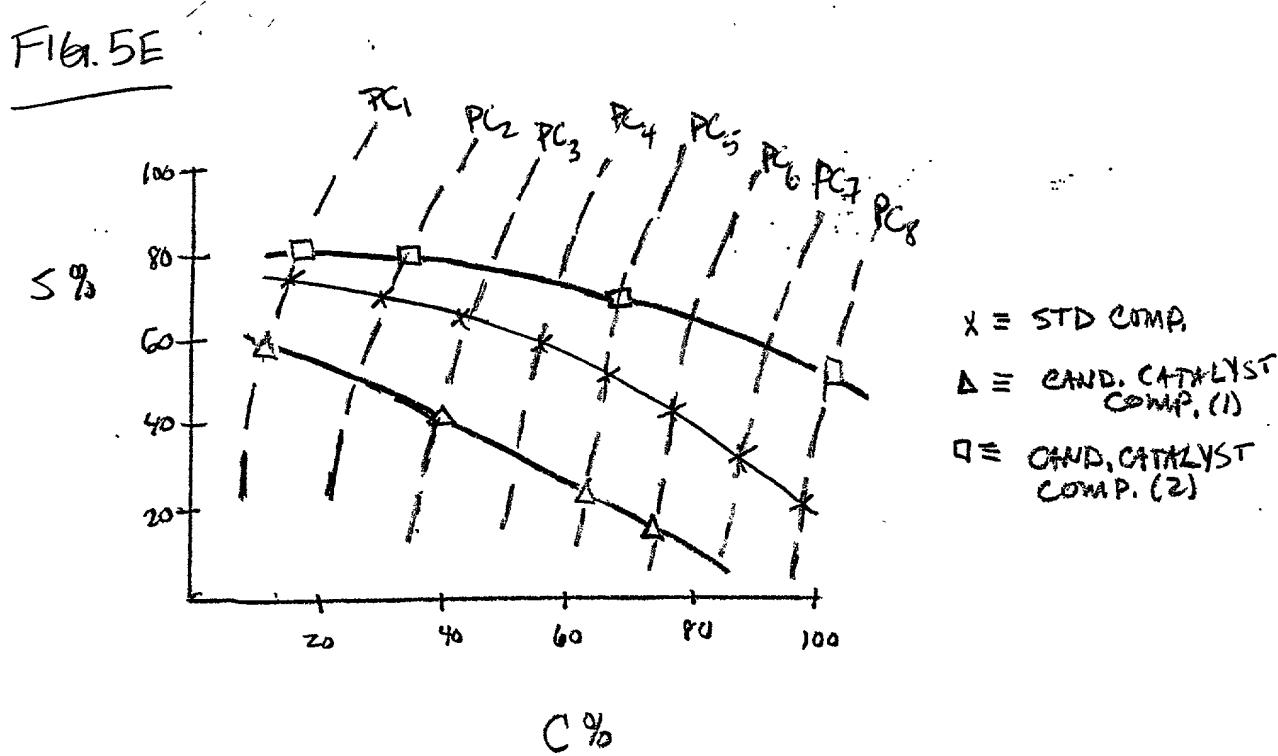
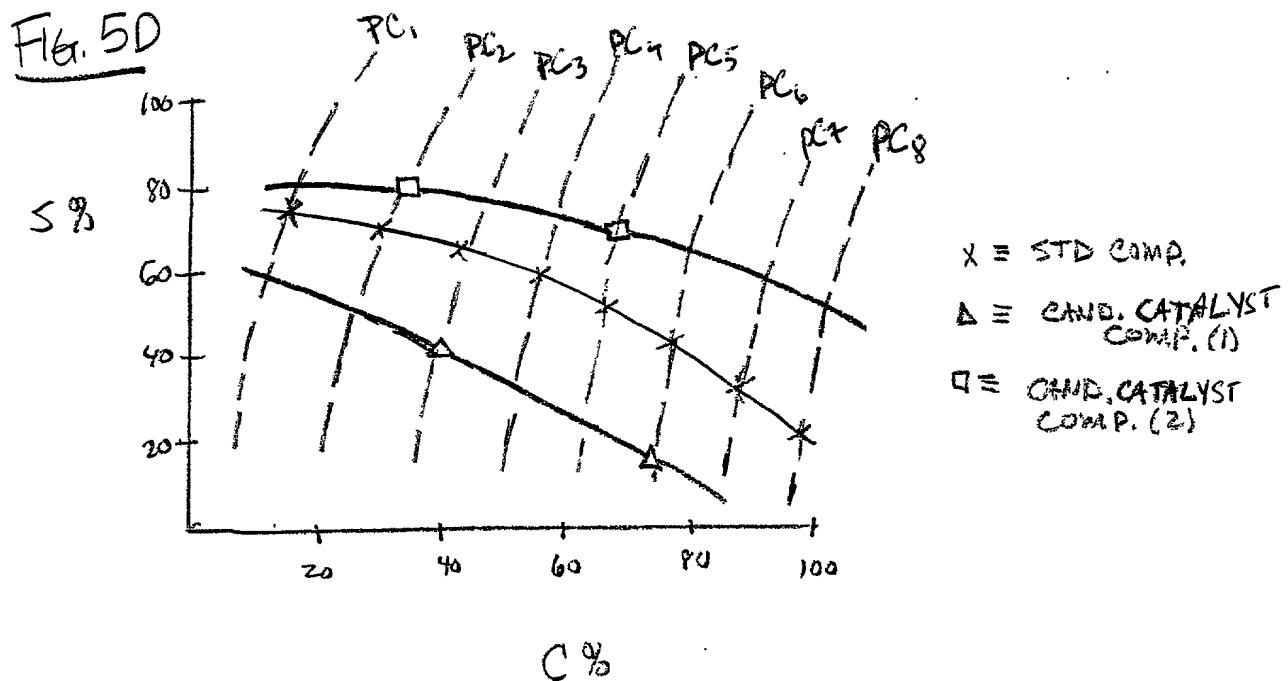
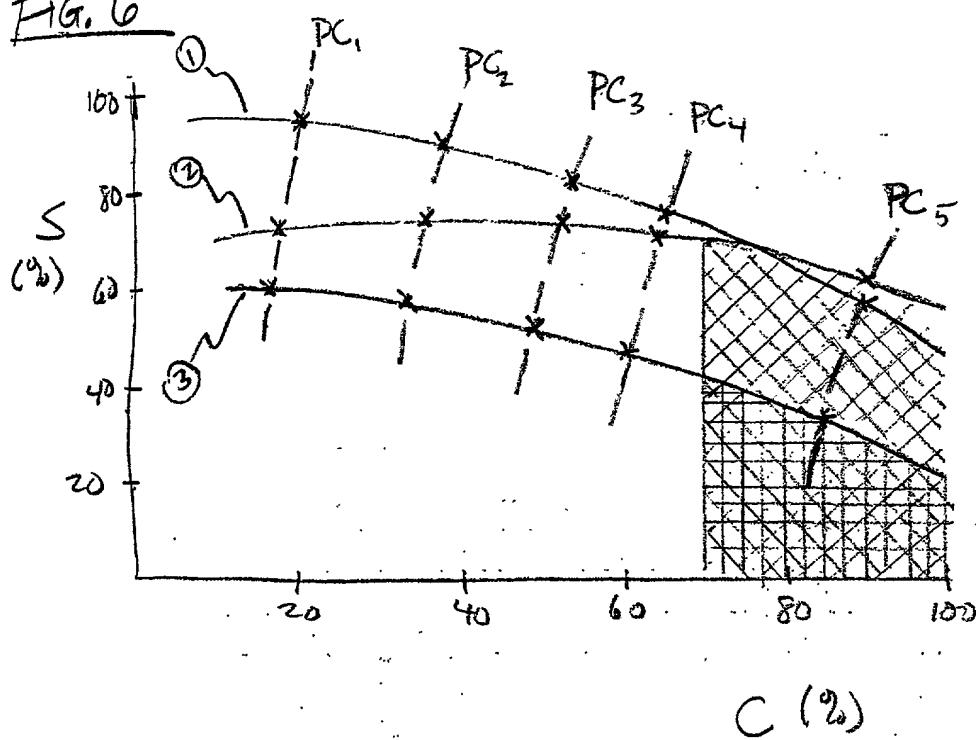


FIG. 6



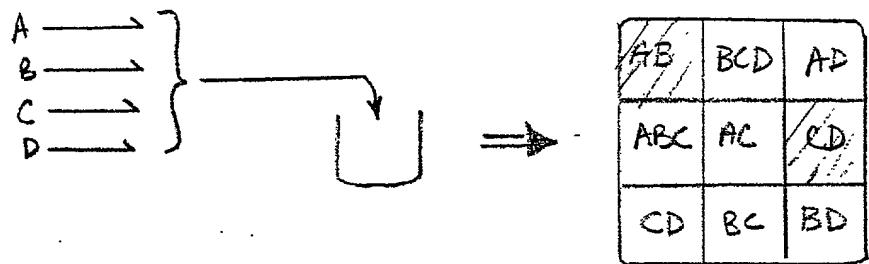
$(A_2 \gtrsim A_1 \gg A_3 \Rightarrow ② \gtrsim ① \gg ③ \text{ for catalyst performance})$

$$① \equiv C_1$$

$$② \equiv C_2$$

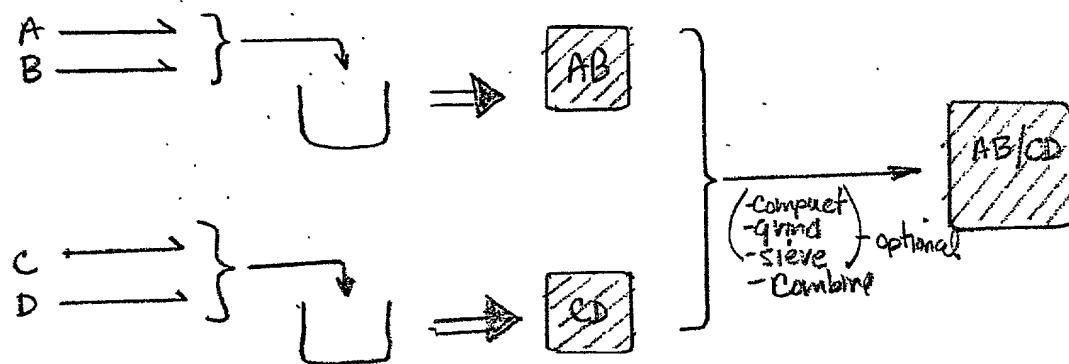
$$③ \equiv C_3$$

Fig. 7A (Prior Art) - (Single Pot Synthesis)



/// = catalytically active or promoter phase

Fig. 7B - (Selective Active-Phase Synthesis)



/// = catalytically active or promoter phase